Change to Conservation Measure for the Arizona Bell's vireo
Lower Colorado River Multi-Species Conservation Program
Program Decision Document 14-002

Steering Committee Motion

The Steering Committee approves Reclamation's recommended changes to conservation measure BEVI1 to include cottonwood-willow I-II habitats, specifically:

BEVI1—Create 2,983 acres of Arizona Bell's vireo habitat. Of the 7,260 acres of created cottonwood-willow and honey mesquite, at least 2,983 acres will be designed and created to provide habitat for this species. Patches of created habitat will be designed and managed to support cottonwood-willow types I-IV and honey mesquite type III that provide habitat for this species. The created habitat will be established in patches as large as possible. In addition to the spatial replacement of affected habitat, the quality of created habitat will be substantially greater than affected habitats. Patches of existing cottonwood-willow in the LCR MSCP planning area typically include dense stands of saltcedar that support little vegetative diversity relative to the cottonwood-willow land cover that will be created as habitat. Created habitat will be dominated by native riparian trees (i.e., cottonwood and willow trees), support a tree structure corresponding to structural types I–IV, support a diversity of plant species, and will be created to the greatest extent practicable in patch sizes optimal for supporting the species. The design and management criteria described in the conservation measures for the southwestern willow flycatcher (Section 5.7.2) and yellow-billed cuckoo (Section 5.7.14) will ensure that created cottonwood-willow stands in structural types I-IV will also provide other habitat requirements for this species (e.g., habitat patch size, food requirements). In particular, the management of moist surface soil, slow-moving water, or ponded water conditions and greater diversity of seral stages of cottonwood-willow described in the conservation measures for the southwestern willow flycatcher habitat will also provide these habitat requirements for this species. Created habitat, thus, will approximate the condition of the native habitat of the species that was historically present along the LCR.

Current Conservation Measure

5.7.19.2 Conservation Measures (LCR MSCP 2004)

BEVI1—Create 2,983 acres of Arizona Bell's vireo habitat. Of the 7,260 acres of created cottonwood-willow and honey mesquite, at least 2,983 acres will be designed and created to provide habitat for this species. Patches of created habitat will be designed and managed to support cottonwood-willow types III and IV and honey mesquite type III that provide habitat for this species. The created habitat will be established in patches as large as possible. In addition to the spatial replacement of affected habitat, the quality of created habitat will be substantially greater than affected habitats. Patches of existing cottonwood-willow in the LCR MSCP planning area typically include dense stands of saltcedar that support little vegetative diversity relative to the cottonwood-willow land cover that will be created as habitat. Created habitat will be dominated by native riparian trees (i.e., cottonwood and willow trees), support a tree structure corresponding to structural types III–IV, support a diversity of plant species,

and will be created to the greatest extent practicable in patch sizes optimal for supporting the species. The design and management criteria described in the conservation measures for the southwestern willow flycatcher (Section 5.7.2) and yellow-billed cuckoo (Section 5.7.14) will ensure that created cottonwood-willow stands in structural types III and IV will also provide other habitat requirements for this species (e.g., habitat patch size, food requirements). In particular, the management of moist surface soil, slow-moving water, or ponded water conditions and greater diversity of seral stages of cottonwood-willow described in the conservation measures for the southwestern willow flycatcher habitat will also provide these habitat requirements for this species. Created habitat, thus, will approximate the condition of the native habitat of the species that was historically present along the LCR.

Justification

When the LCR MSCP was finalized in 2005, Arizona Bell's vireos were known to be present in few locations throughout the lower Colorado River occupying honey mesquite-saltcedar mixed stands outside of the willow habitats within the Bill Williams River National Wildlife Refuge (Rosenberg et al. 1991), Lake Havasu National Wildlife Refuge, Cibola National Wildlife Refuge, Picacho State Park, and on the Fort Mohave Indian Reservation. Conservation Measure BEVI1, which requires the creation and management of 2,983 acres of Arizona Bell's vireo habitat was based on this limited data from the 1990's and other historic data. Surveys conducted over several years under the LCR MSCP through the avian systemwide and conservation areas surveys have documented Arizona Bell's vireos using a wider range of cottonwood-willow land cover types for foraging and nesting than was previously reported.

MONITORING RESULTS FOR ARIZONA BELL'S VIREO

The subspecies Arizona Bell's vireo (*Vireo bellii arizonae*) was proposed for federal listing in 1981 as endangered because of dramatic population declines. The petition failed because significant populations of the subspecies existed in Arizona and New Mexico. California listed the subspecies as endangered in 1988. Since actions covered under the LCR MSCP were expected to affect 2,983 acres of existing Arizona Bell's vireo habitat on the lower Colorado River, one conservation measure (BEVI1) was developed and listed in the Habitat Conservation Plan for this species.

Systemwide and conservation area surveys for the Arizona Bell's vireo began in 2007 and continued into 2013. These surveys have provided more information regarding the habitat use at the landscape scale for the Arizona Bell's vireo. Habitat association analyses were conducted for Arizona Bell's vireo's where GBBO stated that Bell's vireo's were positively associated with tall riparian tree cover, particularly cottonwood, and the presence of shrub mesquite, but avoided upland habitat patches and patches dominated by low ground cover (GBBO 2009).

LCR MSCP began systemwide surveys in 2007 for six covered riparian obligate species using a double sampling approach. The covered species are the Arizona Bell's vireo, Sonoran yellow warbler, summer tanager, Gila woodpecker, and gilded flicker. The project area for systemwide bird monitoring includes the Colorado River from Separation Point, upstream of Lake Mead, to the Southerly International Boundary with Mexico (GBBO 2011). The riparian habitat along the LCR and tributaries were stratified and delineated to divide the project area into approximately

22 acre (9ha) plots (GBBO 2011) and assigned a habitat type to each plot. Each year 80 randomly selected plots were surveyed for the six covered species. After three years of surveys, GBBO found that the Bell's vireo was the most widespread species, second most common breeder, and highest estimated population size systemwide among the covered species during the 2008-2010 surveys (GBBO 2011). Arizona Bell's vireo continues to be one of the most abundant covered species in subsequent annual surveys utilizing various riparian habitat structure types along the LCR.

Systemwide surveys documented Arizona Bell's vireo in riparian habitat in the following areas: along the Colorado River inflow into Lake Mead; within narrow bands of riparian habitat along Lake Mohave shorelines up to Owl Point; within the surrounding areas of Topock Marsh and riparian habitat along the Colorado River within the Havasu National Wildlife Refuge; riparian habitat along the Colorado River in Topock Gorge down to the riparian edges on the east side of Lake Havasu; throughout the Bill Williams River National Wildlife Refuge about two kilometers from the delta where the riparian forest begins through the Planet Ranch property; along the Bill Williams River west of Alamo Dam and within Lincoln Ranch; in Parker Valley within the Deer Island area southwest of the Ahakhav Tribal Preserve; along the Colorado River north of Picacho State Park in the Imperial National Wildlife Refuge including areas around Martinez Lake; areas within and around Mittry Lake and along the Colorado River between Imperial and Laguna Dams; and other areas along the LCR. In 2013, surveys were conducted along the Virgin River and Arizona Bell's vireos were detected in several structural types of cottonwood-willow, mesquite and saltcedar habitats similar to range of habitat they occupy along the Colorado River. The location and presence of the species along the Colorado and Virgin Rivers to date are provided in table 1.

Surveys are conducted annually at the LCR MSCP conservation areas two years following planting. Each year Cibola National Wildlife Refuge Unit 1 Nature Trail and Beal Lake Conservation Area surveys have documented breeding or foraging Arizona Bell's vireo since 2007. The data from these two Conservation Areas show the birds utilize cottonwood-willow and honey mesquite mixed together. These areas are classified at the landscape scale as cottonwood-willow land cover types. Palo Verde Ecological Reserve, and Cibola Valley Conservation Area are planted in blocks of cottonwood-willow, and then blocks of honey mesquite. The honey-mesquite at each of these conservation areas are just reaching the structure type III the species conservation measure requires and is expected that once the two (cottonwood-willow and honey mesquite) types grow together the species will begin utilizing more of the two conservation areas. The location and presence of the species within the conservation areas that have been surveyed are provided in table 2.

Systemwide and conservation area surveys have shown Arizona Bell's vireos are more of a generalist species utilizing habitat in varying structure types during the breeding season for foraging and nesting. Adjusting the conservation measure to include cottonwood-willow I and II for Arizona Bell's vireo is based on data collected over 7 years and is recommended at this time to better reflect the species natural history.

Table 1. Arizona Bell's vireo presence in cottonwood-willow and mesquite, and salt cedar and mesquite

Location	Habitat Type	2007[2]	2008[1]	2009[1]	2010[1]	2011[1]	2012[1]	2013[1]
Virgin River	CW I, SC IV-VI, SH IV-V	NS	NS	NS	NS	NS	NS	X
Colorado River Inflow	CW III-VI	X	NS	ND	NS	NS	NS	NS
Lake Mohave	CW I, III, SC I-IV and SH I-IV	X	X	X	NS	NS	X	X
Needles/Laughlin Area (Davis Dam - Topock Bay)	CW I-III, SC III-V, SH IV-V	X	ND	X	X	X	X	X
Topock Gorge and Lake Havasu	CW I, SC IV-V, SM III	X	ND	X	X	X	ND	X
Bill Williams River NWR	CW I-IV and HM, SH IV	X	X	X	X	X	X	X
Planet Ranch area	CW II, SH IV, SCIII-VI	NS	X	X	X	X	NS	NS
Reid Valley area	CW I,III, and SC II, IV, VI	NS	X	NS	X	X	X	X
Parker Valley	CW I, SC III-VI	ND	NS	X	NS	ND	NS	NS
Imperial NWR and Picacho State Park	CW I, SM III-IV, SC III-V	ND	X	X	ND	X	X	ND
Laguna and Mittry Lake Area	CW I, III, SC II-VI, SH IV	ND	ND	X	X	X	X	X

NS=Surveys not conducted
X=species present
ND=Surveys conducted and BEVI not detected
[1]GBBO 2008-2012 reports and unpublished data
[2]Bart 2007

Table 2. Arizona Bell's vireo presence in cottonwood-willow and honey mesquite

Location	Habitat Type	2007[2]	2008[1]	2009[1]	2010[1]	2011[1]	2012[1]	2013[1]
Cibola Unit 1	CW I and HM	X	X	X	X	X	X	X
CVCA (Phase 1, 2 and 3)	CW I-III and HM	NS	ND	ND	ND	ND	ND	ND
PVER	CW I-IV and HM	ND	X	ND	X	ND	X	ND
Beal Lake Conservation Area	CW I and HM	X	X	X	X	X	X	X

NS=Surveys not conducted
X=species present
ND=Surveys conducted and BEVI not detected
[1]GBBO 2008-2012 reports and unpublished data
[2]Bart 2007

Literature Review

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